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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/556,934

01/11/2007

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3752

23364 7590 10/19/2010  
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EXAMINER

SLIFKA, COLIN W

ART UNIT

PAPER NUMBER

1732

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/556,934	<b>Applicant(s)</b> YAMASHITA ET AL.	
	<b>Examiner</b> COLIN W. SLIFKA	<b>Art Unit</b> 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 states that the precipitated calcium carbonate has an aspect ratio of “3 or more” (line 4). However, the specification states that the aspect ratio is “of less than 3” (i.e. abstract and par. 10 of PGPub). It is therefore unclear if the aspect ratio is 3 or more, as stated in the claims, or less than 3, as stated in the specification. It is assumed that the specification is correct and the claims are incorrect. The original claims claim less than 3.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 and 3-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanabe et al (US 6,991,677) in view of Nakajima et al (US 5,292,495).

Tanabe discloses precipitated calcium carbonate particles, which are spindle-shaped, having a major axis of 1-4  $\mu\text{m}$  and a minor axis of 0.2-1  $\mu\text{m}$  (col. 5, lines 64-65). This allows for aspect ratios ranging from 1-20. Tanabe teaches that various

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shapes, including spindle, may be produced, but that spindle-shape calcium carbonate is preferred (col. 5, line 62-col. 6, line 6). Regarding the secondary particle of the instant claims, Tanabe teaches, in addition to the primary particle diameters, an aggregated particle diameter of “several to over ten  $\mu\text{m}$ ” (col. 8, lines 22-24). “Several to over ten” is considered to at least include ten and is also considered to include, to some extent, less than ten. Tanabe specifically teaches that the paper filled with the calcium carbonate is part of the invention (col. 8, lines 16-18).

Tanabe does not mention the BET surface area or the pore volume of the particles.

Nakajima discloses similar precipitated calcium carbonates. Nakajima teaches that there are known methods of producing aggregated calcium carbonate particles, wherein the particles are inherently not porous (col. 1, lines 41-51). Nakajima further teaches that for the calcium carbonated to be satisfactorily used in applications, including fillers for paper, it would be important that the primary particles to be inherently porous with a decreased overall specific pore surface area, and increased overall pore volume (col. 1, lines 55-59). Nakajima further describes a method for producing such porous calcium carbonate particles having particle diameters from 1-20  $\mu\text{m}$ , overall pore volume from 1-2  $\text{cm}^3/\text{g}$ , and overall specific pore surface area from 2.5-10  $\text{m}^2/\text{g}$  (col. 2, lines 26-32). Nakajima teaches that the shape of the particles, including spindle-shaped, depends upon the special requirements in the unique applications of the powder (col. 1, lines 26-35).

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Regarding claims 1 and 4, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the aggregated secondary particles of Tanabe with the above mentioned particle parameters as taught by Nakajima in order to achieve a final product which may be satisfactorily used in desired applications, as taught by Nakajima.

Tanabe, as combined with Nakajima, and the claims differ in that Tanabe (and Nakajima) does not teach the exact same proportions as recited in the instant claims.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the proportions taught by Tanabe and Nakajima overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Regarding claim 3, “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The

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patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.”, (*In re Thorpe*, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious different between the claimed product and the prior art product (*In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

Regarding claims 5, 6, 8, and 9, both Tanabe and Nakajima teach that the calcium carbonates may be used as filler for paper and Tanabe additionally claims the paper itself, as shown above.

Regarding claim 7, Tanabe teaches that the amount of filler added for paper making depends on the kind and quality of the finished paper product, but in general, ranges from 5-30% by weight (col. 7, lines 46-50). Tanabe further teaches that when using the calcium carbonate as taught by Tanabe, the calcium carbonate filler may be used in amounts of 1% by weight or more (col. 7, lines 61-65).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1 and 3-9 have been considered but are moot in view of the new ground(s) of rejection. The new rejection has been made above.

Restriction has been maintained in view of the rejection made above.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to COLIN W. SLIFKA whose telephone number is (571)270-5830. The examiner can normally be reached on Monday-Thursday, 9:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/COLIN W SLIFKA/  
Examiner, Art Unit 1732

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October 15, 2010

/Melvin Curtis Mayes/

Supervisory Patent Examiner, Art Unit 1732